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**DESIGN GUIDELINES FOR ARABIC MOBILE LEARNING
APPLICATION BASED ON COGNITIVE THEORY OF MULTIMEDIA
LEARNING**



**MASTER OF SCIENCE (INFORMATION TECHNOLOGY)
SCHOOL OF COMPUTING
UUM COLLEGE OF ARTS AND SCIENCES
UNIVERSITI UTARA MALAYSIA**

2016

**DESIGN GUIDELINES FOR ARABIC MOBILE LEARNING
APPLICATION BASED ON COGNITIVE THEORY OF MULTIMEDIA
LEARNING**

**Thesis submitted to Dean of Awang Had Salleh Graduate School in
Partial Fulfillment of the requirement for the degree
Master of Science in Information Technology
Universiti Utara Malaysia**

MOHAMMED ABBAS NEAMAH AL-RIKABI

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Abstract

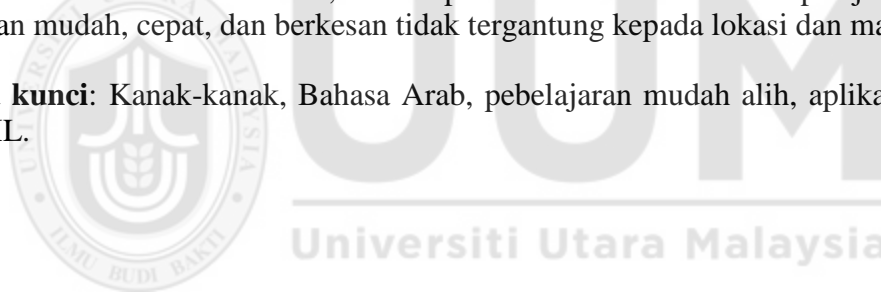
Arabic Language has an exceptional position in Islam. As the language of al-Quran, the needs to learn and understand it amongst Muslims is of paramount importance. In countries where their native language is not Arabic, it needs to be introduced to children at their early age such as in primary schools. With the advent of mobile technology, various kinds of multimedia tools have been developed for the purpose of learning language. Since children are attracted to mobile multimedia applications, it could potentially be used in learning Arabic too. Various applications have been available in the market, but most of them do not fully utilize the multimedia elements such as sounds, videos, images, and texts. In response to that, this study aims to design, develop and evaluate a mobile multimedia application. It is called A4Kids, targeted for children between 7 and 9 years old for learning Arabic language based on Cognitive Theory of Multimedia Learning CTML. First, this study initiated an investigation involving multiple fact finding techniques, which are interviews and review of related literatures to get a prototype for stakeholders' information needs. The preliminary analysis involves interviews with expert teachers who have taught Arabic subject for more than ten years in primary schools. Then, related literatures were reviewed. Further, an application was developed, and tested involving real users. The results of user evaluation on the A4Kids indicate that it is learnable, easy to use, and useful for children. Additionally, it is capable to help them learn Arabic easily, directly, and successfully regardless of location and time.

Keywords: Children, Arabic language, mobile learning, mobile application, CTML.

Abstrak

Bahasa Arab mempunyai kedudukan yang tinggi dalam Islam. Sebagai bahasa al-Quran, keperluan mempelajari dan memahaminya di kalangan orang Islam adalah sangat tinggi. Di kalangan negara-negara yang bahasa natif mereka bukan Bahasa Arab, ia perlu diperkenal kepada kanak-kanak pada usia muda di sekolah rendah. Seiring dengan kemajuan teknologi mudah alih, pelbagai alatan multimedia telah dibangunkan untuk mempelajari bahasa. Memandangkan kanak-kanak amat tertarik dengan aplikasi multimedia mudah alih, ia amat berpotensi diaplikasikan dalam pembelajaran Bahasa Arab. Pelbagai aplikasi telah tersedia dalam pasaran, tetapi kebanyakan mereka tidak menggunakan pelbagai elemen multimedia. Justeru, kajian ini menetapkan sasaran untuk mereka bentuk, membangun, dan menilai sebuah aplikasi pembelajaran multimedia. Ia dinamakan A4Kids, dikhususkan kepada kanak-kanak di antara 7 dan 9 tahun. Pada awalnya, konsep dan garis panduan untuk A4Kids telah dibentuk melalui temubual dan kajian dokumen. Kemudian, sebuah prototaip telah dibangunkan, dan diuji dengan pengguna. Dapatan menunjukkan A4Kids mudah dipelajari, mudah diguna, dan berguna kepada kanak-kanak. Malahan, ia mampu membantu mereka mempelajari Bahasa Arab dengan mudah, cepat, dan berkesan tidak tergantung kepada lokasi dan masa.

Kata kunci: Kanak-kanak, Bahasa Arab, pembelajaran mudah alih, aplikasi mudah alih, CTML.



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List of Acronyms

A4Kids	Arabic Language for Kids
CD	Compact Disk
CTML	Cognitive Theory of Multimedia Learning
E-learning	Electronic Learning
ICT	Information and Communication Technology
J-QAF	Jawi-Quran-Arabic and Fardhu ain
M-learning	Mobile Learning
MMS	Multimedia Messaging Service
MoE	Ministry of Education
SK	Sekolah Kebangsaan
SMS	Short Messaging Service
UML	Unified Modelling Language

CHAPTER ONE

INTRODUCTION

1.1 Introduction

The way of life of people in the contemporary societies has evolved, which implicates also their works and the organizational work styles. This is very much influenced by the advancement of the information and communication technology (ICT). As the world develops, the education also gets significantly influenced. In conjunction to that, the way people learn should also be reengineered. This has been seen in learning of various subjects (Kundishora, 2013). In education sector, the emergence of ICT in the last years has become indispensable for both teachers and learners in various fields. In fact, the Internet facilities have influenced the ICT to gradually pushing aside the traditional library from educational scene into digital infrastructure (Jacobsen & Lund, 2015), enabling people to acquire information from a distance.

In regards to that, the Malaysian government believes that the quality of education can be improved by utilizing ICT (Zaki & Danby, 2013). In addition, the education system in Malaysia has also gone through several important stages that feature it in the best way possible to match the emerging and changing needs of the contemporary society by following the trends of new media and technologies (Zaki & Danby, 2013). It is also seen that emerging technologies in the education system is highly sensing for the benefits of students' experience. With the emerging technologies, the new form of learning in electronic environment or M-learning has grown significantly, especially in training institutions (such as universities and schools).

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